

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. – 57. (Cancelled)

58. (Currently Amended) A system comprising:

one or more mobile devices ~~one or more computers~~; and
a computer-readable medium coupled to the one or more mobile device ~~one or more computers~~ having instructions stored thereon which, when executed by ~~the one or more computers~~, cause a single one of the mobile devices ~~cause the one or more computers~~ to perform operations comprising:

providing a multi-modal user interface ~~on a mobile device~~, the multi-modal interface for assisting a warehouse worker in performing inventory management tasks in a warehouse that stores different items for sale in multiple storage locations disposed throughout the warehouse environment, and the multi-modal interface enabling output and user input of information using both first and second modalities that collectively include a voice-based modality and a touch-based modality,

receiving a first user input identifying a job type mode, the first user input being input by the warehouse worker using either the first modality or the second modality as chosen by the warehouse worker ~~a user of the mobile device~~, and the job type mode being selected from among a stocking mode in which the user warehouse worker enters one or more items into a particular one of the multiple storage locations disposed throughout the warehouse a bin in the warehouse environment, a picking mode in which the user warehouse worker removes the one or more items from the particular storage location the bin in the warehouse environment, and a counting mode in which the user warehouse worker counts the one or more items in the particular storage location bin in the warehouse environment,

transmitting information identifying the user-selected job type mode to an inventory management system, in a single format which is consistent with the modality in which the first user input was received,

responsive to transmitting the information, receiving a response to the information identifying the user-selected job type mode from the inventory management system, in two or more formats which are consistent with both the first modality and the second modality, the response identifying a location at which the user warehouse worker will perform a function related to the user-selected job type mode on the one or more items, a description of the one or more items, and a best route from a present location of the warehouse worker to the particular storage location user to the bin,

providing the response to the user the warehouse worker using both audio and display components of the multi-modal user interface, in the two or more formats which are consistent with both the first modality and the second modality,

receiving a second user input using either the first modality or the second modality as chosen by the warehouse worker the user, the second user input indicating that the user warehouse worker has completed the selected function, and including count information or location information associated with the one or more items as observed by the warehouse worker the user and, when the voice-based modality is used, a phonetically distinct checkword associated with the bin to indicate associated with and displayed at the particular storage location, the phonetically distinct checkword indicating completion of the selected function,

updating inventory data for the one or more items based on the count information or the location information, the updated inventory data being accessible using the two or more formats which are consistent with both the first modality and the second modality,

determining that the particular storage location is expected to be empty,

responsive to determining that the particular storage location is expected to be empty, prompting the warehouse worker to confirm that the particular storage location is observed to actually be empty, using both the first modality and the second modality, and

transmitting information indicating that the user warehouse worker has completed the selected function related to the user-selected job type mode to the inventory management

system, in a single format consistent with the modality in which the second user input was received.

59. (Previously Presented) The system of claim 58, wherein the operations further comprise: outputting the updated inventory data in a format consistent with either the first modality or the second modality, such that the inventory data is maintained during performance of the inventory management tasks.

60. (Previously Presented) The system of claim 58, whercin the job type mode comprises job data.

61. (Previously Presented) The system of claim 58, wherein the multi-modal interface further enables output and user input information using a Radio Frequency Identification Device (RFID) modality, or a bar code modality.

62. (Previously Presented) The system of claim 58, wherein the operations further comprise receiving a pick list identifying the one or more items and the function.

63. (Previously Presented) The system of claim 62, wherein the operations further comprise: displaying the pick list using a visual user interface, and outputting, using voice synthesis, information identifying less than all items on the pick list.

64. (Previously Presented) The system of claim 58, wherein the formats consistent with both the first modality and the second modality comprise HTML and VXML, respectively.

65. – 68. (Cancelled)

69. (Previously Presented) The system of claim 58, wherein the first user input is received using a different modality than the second user input.

70. (Previously Presented) The system of claim 69, wherein:
the first user input is received using the voice-based modality, and
the second user input is received using the touch-based modality.
71. (Currently Amended) A computer-readable medium encoded with a computer program comprising instructions that, when executed, operate to cause a single mobile device computer to perform operations comprising:
providing a multi-modal user interface ~~on a mobile device~~, the multi-modal interface for assisting a warehouse worker in performing inventory management tasks in a warehouse that stores different items for sale in multiple storage locations disposed throughout the warehouse environment, and the multi-modal interface enabling output and user input of information using both first and second modalities that collectively include a voice-based modality and a touch-based modality;
receiving a first user input identifying a job type mode, the first user input being input by the warehouse worker using either the first modality or the second modality as chosen by the warehouse worker ~~a user of the mobile device~~, and the job type mode being selected from among a stocking mode in which the user warehouse worker enters one or more items into a particular one of the multiple storage locations disposed throughout the warehouse ~~a bin in the warehouse environment~~, a picking mode in which the user warehouse worker removes the one or more items from the particular storage location ~~the bin in the warehouse environment~~, and a counting mode in which the user warehouse worker counts the one or more items in the particular storage location ~~bin in the warehouse environment~~;
transmitting information identifying the user-selected job type mode to an inventory management system, in a single format which is consistent with the modality in which the first user input was received;
responsive to transmitting the information, receiving a response to the information identifying the user-selected job type mode from the inventory management system, in two or more formats which are consistent with both the first modality and the second modality, the response identifying a location at which the user warehouse worker will perform a function

related to the user-selected job type mode on the one or more items, a description of the one or more items, and a best route from a present location of the warehouse worker to the particular storage location user to the bin;

providing the response to the user the warehouse worker using both audio and display components of the multi-modal user interface, in the two or more formats which are consistent with both the first modality and the second modality;

receiving a second user input using either the first modality or the second modality as chosen by the warehouse worker the user, the second user input indicating that the user warehouse worker has completed the selected function, and including count information or location information associated with the one or more items as observed by the warehouse worker the user and, when the voice-based modality is used, a phonetically distinct checkword associated with the bin to indicate associated with and displayed at the particular storage location, the phonetically distinct checkword indicating completion of the selected function;

updating inventory data for the one or more items based on the count information or the location information, the updated inventory data being accessible using the two or more formats which are consistent with both the first modality and the second modality;

determining that the particular storage location is expected to be empty;

responsive to determining that the particular storage location is expected to be empty, prompting the warehouse worker to confirm that the particular storage location is observed to actually be empty, using both the first modality and the second modality; and

transmitting information indicating that the user warehouse worker has completed the selected function related to the user-selected job type mode to the inventory management system, in a single format consistent with the modality in which the second user input was received.

72. (Previously Presented) The computer-readable medium of claim 71, wherein the operations further comprise:

outputting the updated inventory data in a format consistent with either the first modality or the second modality, such that the inventory data is maintained during performance of the inventory management tasks.

73. (Previously Presented) The computer-readable medium of claim 71, wherein the job type mode comprises job data.

74. (Previously Presented) The computer-readable medium of claim 71, wherein the multi-modal interface further enables output and user input information using a Radio Frequency Identification Device (RFID) modality, or a bar code modality.

75. (Previously Presented) The computer-readable medium of claim 71, wherein the operations further comprise receiving a pick list identifying the one or more items and the function.

76. (Previously Presented) The computer-readable medium of claim 75, wherein the operations further comprise:

displaying the pick list using a visual user interface, and
outputting, using voice synthesis, information identifying less than all items on the pick list.

77. (Previously Presented) The computer-readable medium of claim 71, wherein the formats consistent with both the first modality and the second modality comprise HTML and VXML, respectively.

78. – 81. (Cancelled)

82. (Previously Presented) The computer-readable medium of claim 71, wherein the first user input is received using a different modality than the second user input.

83. (Previously Presented) The computer-readable medium of claim 82, wherein:
the first user input is received using the voice-based modality, and
the second user input is received using the touch-based modality.

84. (Currently Amended) A computer-implemented method comprising:
- providing a multi-modal user interface on a single mobile device, the multi-modal interface for assisting a warehouse worker in performing inventory management tasks in a warehouse that stores different items for sale in multiple storage locations disposed throughout the warehouse environment, and the multi-modal interface enabling output and user input of information using both first and second modalities that collectively include a voice-based modality and a touch-based modality;
- receiving, by the mobile device, a first user input identifying a job type mode, the first user input being input by the warehouse worker using either the first modality or the second modality as chosen by the warehouse worker a user of the mobile device, and the job type mode being selected from among a stocking mode in which the user warehouse worker enters one or more items into a particular one of the multiple storage locations disposed throughout the warehouse a bin in the warehouse environment, a picking mode in which the user warehouse worker removes the one or more items from the particular storage location the bin in the warehouse environment, and a counting mode in which the user warehouse worker counts the one or more items in the particular storage location bin in the warehouse environment;
- transmitting, by the mobile device, information identifying the user-selected job type mode to an inventory management system, in a single format which is consistent with the modality in which the first user input was received;
- responsive to transmitting the information, receiving, by the mobile device, a response to the information identifying the user-selected job type mode from the inventory management system, in two or more formats which are consistent with both the first modality and the second modality, the response identifying a location at which the user warehouse worker will perform a function related to the user-selected job type mode on the one or more items, a description of the one or more items, and a best route from a present location of the warehouse worker to the particular storage location user to the bin;
- providing, by the mobile device, the response to the user the warehouse worker using both audio and display components of the multi-modal user interface, in the two or more formats which are consistent with both the first modality and the second modality;

receiving, by the mobile device, a second user input using either the first modality or the second modality as chosen by the warehouse worker ~~the user~~, the second user input indicating that ~~the user~~ warehouse worker has completed the selected function, and including count information or location information associated with the one or more items as observed by the ~~warehouse worker~~ ~~the user~~ and, when the voice-based modality is used, a phonetically distinct checkword ~~associated with the bin to indicate~~ ~~associated with and displayed at the particular storage location, the phonetically distinct checkword indicating completion of the selected function;~~

updating, by the mobile device, inventory data for the one or more items based on the count information or the location information, the updated inventory data being accessible using the two or more formats which are consistent with both the first modality and the second modality;

determining, by the mobile device, that the particular storage location is expected to be empty;

responsive to determining that the particular storage location is expected to be empty, prompting, by the mobile device, the warehouse worker to confirm that the particular storage location is observed to actually be empty, using both the first modality and the second modality; and

transmitting, by the mobile device, information indicating that ~~the user~~ warehouse worker has completed the selected function related to the user-selected job type mode to the inventory management system, in a single format consistent with the modality in which the second user input was received.

85. (Previously Presented) The method of claim 84, further comprising:

outputting the updated inventory data in a format consistent with either the first modality or the second modality, such that the inventory data is maintained during performance of the inventory management tasks.

86. (Previously Presented) The method of claim 84, wherein the job type mode comprises job data.

87. (Previously Presented) The method of claim 84, wherein the multi-modal interface further enables output and user input information using a Radio Frequency Identification Device (RFID) modality, or a bar code modality.

88. (Previously Presented) The method of claim 84, further comprising receiving a pick list identifying the one or more items and the function.

89. (Previously Presented) The method of claim 88, further comprising:
displaying the pick list using a visual user interface, and
outputting, using voice synthesis, information identifying less than all items on the pick list.

90. (Previously Presented) The method of claim 84, wherein the formats consistent with both the first modality and the second modality comprise HTML and VXML, respectively.

91. – 94. (Cancelled)

95. (Previously Presented) The method of claim 84, wherein the first user input is received using a different modality than the second user input.

96. (Previously Presented) The method of claim 95, wherein:
the first user input is received using the voice-based modality, and
the second user input is received using the touch-based modality.